Iowa CONSERVATIONIST

Volume 25 October, 1966 Number 10

SURVEYS=PROSPECTS

Jack Kerstein Photo.

It takes more than a shotgun shell to make a successful pheasant season.

KEEPING YEAR-ROUND TABS ON THE RINGNECK

Eugene D. Klonglan
Assistant Superintendent Biology

In about a month the opening of the pheasant hunting season will trigger a quickening of the pulse of some 275,000 Iowa nimrods. Arrangements for the first day's shooting will be pretty well completed —lining up a place to hunt; assembling all the paraphernalia needed, getting the gang in gear so no one gets left out or oversleeps the rendevous; or arrives at the agreed upon area a hundred miles away only to discover his trusty shotgun is still home in the closet. An important part of any hunt lies in the preparation for and anticipation of what is to come. It goes without saying that a necessary part of a group getting together and planning for the big event involves rehashing all of their great hunting trips of the past. (The fact that such tales may be exaggerated a bit in the retelling of course reflects on no one—that's just part of the game!)

In the course of these pre-season bull sessions, a topic that frequently comes up is that of just how the regulations for the up-coming pheasant season are decided upon—particularly such things as the opening date, length of the season, daily bag limit, possession limit, shooting hours, and the like. Judging from a few letters received and comments heard every year, there are a few people who believe the Conservation Commission has a special two-headed coin, a faulty Ouije board, or a mad astrologist that are trusted to choose the regulations annually. It would save a lot of time and effort if there was a foolproof method as simple as this, but unfortunately such is not the case. It is necessary for the Commission to maintain a year-around surveillance of the state's ringneck pheasant population in order to have the facts needed to set the best hunting regulations possible—ones that will provide a maximum of opportunity to the sportsman and yet will not endanger future pheasant populations.

This responsibility is delegated to the Conservation Commission by what is generally known as the "biological law." In brief, this states the seasons and limits set shall be in force as long as the biological balance for a species remains such as to assure the maintenance of an adequate supply of such species; that the Commission is the designated agency to determine the facts as to whether such biological balance does or does not exist, and if the Commission, after investigation, finds the number and/or sex of any species is at variance to the foregoing they shall change the regulations in accordance with these findings.

One might gain the impression from the above that if the specified "biological balance" were maintained as indicated, we should in effect have the same number of pheasants in the state each year—i.e., in perfect balance. This obviously does not happen. Why? Put in its simplest terms, the basic reason is that the environment the pheasants must live in does not stay the same every year—temperatures, rainfall, blizzards, amount of cover, crop acreages, and a host of other factors are subject to variation. Whenever any of these change, the point of "balance," so far as the pheasant is concerned, also changes. Thus it is quite possible to have only half as many birds in an area now as a few years ago and yet still be basically in balance if the environmental conditions, particularly habitat, have also changed in a downward direction. This, in essence, is the condition now prevailing in much of northern Iowa.

When we speak of a biological balance, it would be more proper to refer to a "fluctuating" balance. Populations of animals and birds

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CIRCULATION THIS ISSUE.....58,691

COMMISSION MINUTES

State Conservation Commission Meeting Held in Des Moines, Iowa, September 6 and 7, 1966

Fish and Game

Approval was given to the acquisition of ½ acre of crop land from Peterson at a cost of $150 to straighten the boundary line at Fallow Marsh.

Approval was given to exercise an option at Sweets Marsh area in Bremer County to purchase 80 acres of land from Smith for $12,000 which will supply potholes for duck nesting and 20 acres of agricultural land which can be farmed for game purposes in dry years.

Exercised an option to purchase 44 acres of State-Line Marsh in Kossuth County at an average cost of $170 per acre and a total cost of $7,880 from Ellis.

Exercised a land exchange option with Schwartz for 10 acres of land at the Badger Lake area in Monona County for a like 10 acres which will give better access to the area.

Approval was given awarding the concession contract at Brown's Lake fish and wildlife area to Mr. and Mrs. Gilbert Downing.

Lands and Waters

Approval was given to the purchase of 80 acres at the northwest corner of Waubonsie State Park at $37.50 an acre.

Award of contract for construction of two ponds at Shimek State Forest, Lee County at a total cost of $17,392 was given Coral E. Wilson of Donnellson, Iowa.

Bids on 10 double vault latrines in 9 state parks were rejected because they exceeded engineer's estimates. Staff was directed to negotiate locally for construction and/or use of prison labor.

Approval was given to the five year state park road program subject to later revision.

Request for permission to use car bodies for rip rap on the Skunk River, Jefferson County, was denied.

Contract for three carload of lumber from Frudden Bridge Lumber and Supply Company of Greene, Iowa in the amount of $12,596.51 to be used to build approximately 1,400 new picnic tables was approved.

Contract was awarded to North Central Chemical Company of Burlington, Iowa for 72,000 lbs. of copper sulphate in the amount of $13,566.17 for use by the Water Section in controlling weeds and algae.

Bids on water storage reservoirs for Rock Creek Lake in Jasper County and Springbrook State Park in Guthrie County were rejected. The Staff was ordered to enter into negotiations.

Approval was given for a permit to allow the construction of loading facilities for Armour Agricultural Chemical above Bellevue.

The Staff was directed to indicate to a legislative study committee that the Commission would be happy to enter into the restoration of abandoned surface mine areas if money was available from the legislature for such development.

Permission was given to Howard Waters to construct a water control structure at Geode State Park in Henry County.

County Conservation Board Projects

Davis County's development plans for Drakesville Park, calling for development of this 12 acre tract of land to be used for picnicking, group sports play area, horse show ring and fishing pond were approved at an estimated development cost of $6,400.

Davis County's development plans for Lake Fisher Park, an 85 acre tract of land located on the west side of Lake Fisher to be used primarily for picnicking and also including a playground area for group sports, playground equipment, installation of wildlife habitat planning, improved access to the reservoir for fishing purposes and the improvement of the existing park drive by realignment and road surfacing as well as the construction of off street parking areas, was approved at an estimated development cost of $21 600.

Kossuth County's development plan for Whittemore Park, a 41 acre tract of land to be used primarily as a fishing and picnicking area, at an estimated development cost of $5,170 was approved.

General

Travel to the Federal Aid Coordinator's Conference, Jefferson City, Missouri October 23-29; to the Association of State Foresters, Williamsburg, Virginia October 9-13; Association of Conservation Engineers, Mobile, Alabama October 31-November 3; travel to "Wing Bee", Poynette, Wisconsin October 3-7; and travel to the Annual Conference on Public Personnel Administrators, Washington, D. C. October 23-27, were approved.

Approval was given to the BOR project proposals which total $650,310.78 of which Federal Aid assistance would be expected of $326,755.39; the projects to cover 13 areas, 5 for acquisition and 8 for development.

An application by Concrete Materials Company for sand and gravel removal from the Raccoon River in Polk County was denied.

Approval was given to a proposal to purchase sidearms for uniformed personnel with a stipulation that such sidearms were not to be worn as part of the uniform.

A report concerning Walter Creek Watershed in Adams County was heard and approved.

Informational Items

Presentation of the budget to the comptroller and a report on deer license. On the latter item the Commission voted not to reopen the sale of licenses.

Conservation Forum

Dear Sirs:

I recently read about tularemia in two medical encyclopedias. They stated that tularemia could be a very severe and dangerous disease. They stated that rabbits should not only be dressed when wearing rubber gloves and the hands should be washed with an antiseptic solution afterwards. They also stated that rabbits handled for any purpose after death should be handled only when wearing rubber gloves. Until reading this article I was not aware that the disease was so severe or that such precautions were necessary.

I have been an avid hunter for years and would like to know if you have any statistics on the incidence of tularemia cases in Iowa for the past year. Also, I would like to know if the disease can be transmitted to humans by cats or dogs who have recently eaten diseased rabbits.

Sincerely yours,
A.P.
Elk Horn, Iowa

Tularemia is not a common disease in Iowa anymore. Back in the thirties and early forties it was much more frequent. The State Health Department informs me that one human case occurred in Iowa during 1964 and none in 1965.

As you indicate in your letter this disease is most often picked up by handling wild rabbits, although other wild animals may also carry it. It is impossible for a dog or perhaps a cat to get the disease, but if it is ever transmitted to man in this way it would be a rare occurrence.

Tularemia is a dangerous disease. Before appearance of the new wonder drugs the fatality rate in humans was high. Therefore, we can only subscribe to the procedures of handling and dressing wild rabbits while wearing rubber gloves. Also, rabbits to be eaten should be thoroughly cooked, as the disease can be transmitted by ingestion.

During 10 years as rabbit Biologist for the State Conservation Commission I personally handled hundred of cottontails and jack rabbits. Only one of these rabbits appeared to have tularemia. So I feel it is safe to say that while the disease occurs in Iowa, it is relatively rare. However, history could repeat itself, and a severe outbreak is possible anytime in the future.—Paul D. Kline, Ass't Supt. of Game.

Dear Sir:

I would like some information. I would like to register a boat and I would like to know how much it will cost for the next 11 months before they expire July 1, 1967.

F. B.
Tracy, Iowa

A boat which has never been registered may be registered by filing an application for registration with the State Conservation Commission with a fee of $2.00 which covers the remainder of the 2 yr. registration period which ends July 4, 1967. The applications for registration are available from all Conservation Officers, Water Officers, County Recorders and most boat dealers.—Roy Downing, Supt. of Waters.

Dear Sir:

Am writing for your fish laws. I am intending to come to Iowa sometime in October to hand hunt turtle. Do we have to have license to fish to hunt turtle or such.

L. F.
Dayton, Ohio

Sec. 109.121 Code of Iowa prohibits any non-resident or alien from taking turtles or crayfish from the inland waters in Iowa by any means or methods.—Charles Olofson, Hunter Safety Officer.

Although they are called "sheep," the Rocky Mountain Bighorn sheep do not have coats of wool but merely very short hair. In winter a scanty fuzz grows between the skin and outer guard hairs to keep the animal warm against the terrible chilling winds.

* * *

The ring on the ring-necked duck is hard to see and on many specimen doesn't even exist; so why it is called by this name is quite a mystery.

* * *

The most beautiful of American waterfowl, one would think the wood duck would be an import from some exotic country of the East, but it has always been a true resident of North America.

Where's Fishing Best?

Jim Mayhew, Fisheries Biologist

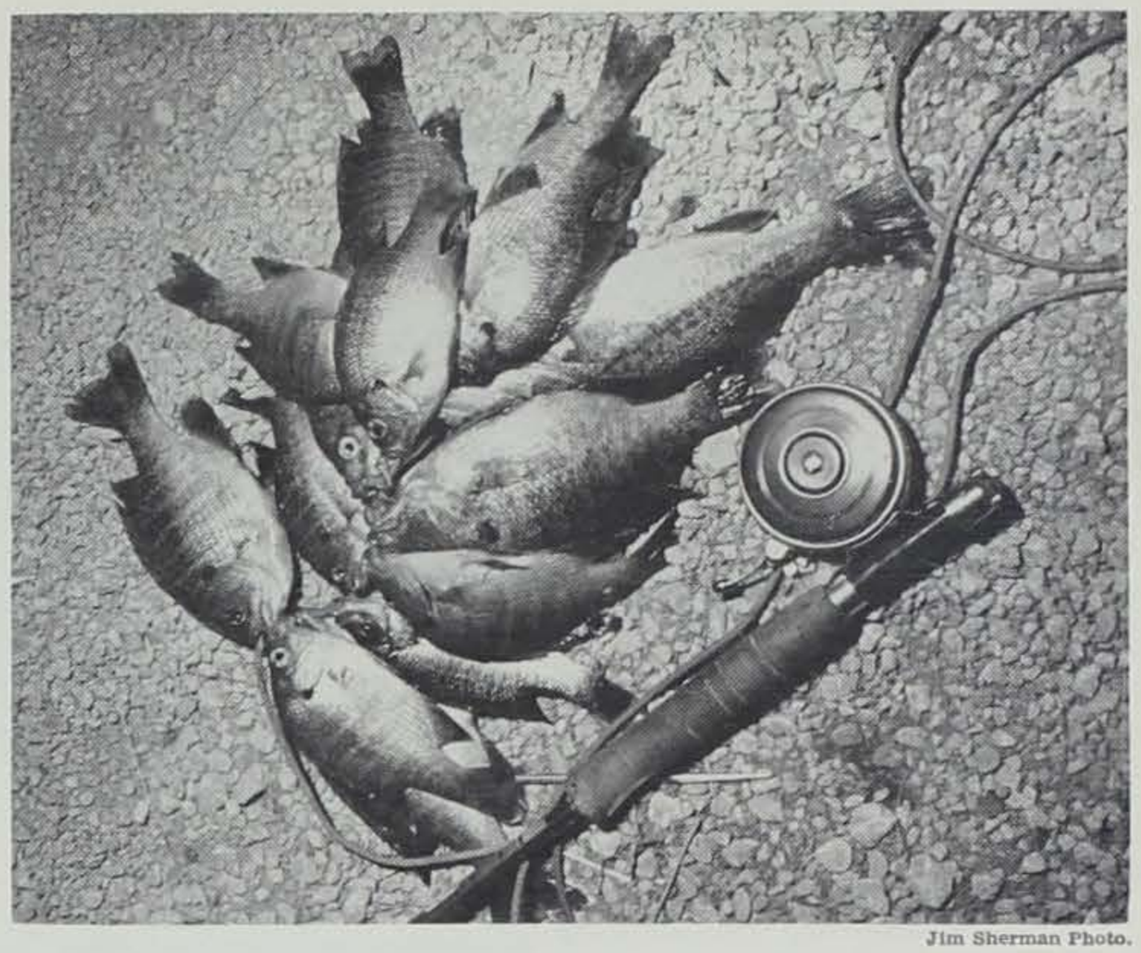
Have you ever had your fishing license checked by an Officer of the State Conservation Commission? If you have, then you are probably aware he also records information about the length of time you have been fishing, number and kind of fish caught and the number of fishermen in your party. Ever wonder why he was asking such questions? Well, believe it or not, he is taking the "fishing pulse" of Iowa lakes and streams. This information is used extensively by fish biologists and management experts to determine the success of fish management in recreational waters. By measuring the contribution of such things as fish stocking, population manipulation and species control to the sport fishery, fish management techniques are evaluated, refined and adjusted to be more effective.

Since 1960, when the project started, information has been obtained from more than 27,000 anglers at 89 man-made lakes. These people caught over 58,000 fish after fishing more than 44,000 hours. This article is about the angling success and harvest of Iowa artificial lake and reservoir fishermen.

The man-made lakes in southern Iowa can be separated into groups based on primary and secondary use or purpose. Many of these lakes were constructed exclusively for outdoor recreation. This includes all state and county conservation board lakes. Other impoundments were constructed for municipal or commercial water supply. In these, recreation is permitted on a limited scale if it does not interfere with the primary use and is largely a secondary activity. There are also countless small agricultural ponds whose multiple uses usually include livestock watering, erosion control and recreation. The final group consists of abandoned coal strip mines, gravel pits and commercial pits that have been flooded and stocked with fish.

Since the beginning of the census there has been a gradual but progressive change in the preference of species by the artificial lake and reservoir angler. During the first 3 years, fishermen caught more bullhead than any other species. In the fourth year, bluegill and bullhead were of equal importance in angler harvest. Since that time, bluegills have become the most popular fish. Bluegill has averaged 39 per cent and bullhead 37 per cent of the angler harvest over the 6 year period. Crappie was the third most popular fish, averaging 15 per cent of the catch. Largemouth bass averaged 5 per cent, while channel catfish followed in importance averaging 1 per cent. Walleye, northern pike, redear sunfish, flathead catfish, warmouth, carp, white bass and yellow bass were also recorded but did not contribute significantly to the catch in most Iowa man-made lakes.

Throughout the census, fishing success has been highest in farm ponds. Annual farm pond fishing success has ranged from 2.2 fish per hour in 1962 to 1.3 fish per hour last year. Recreational lakes provided the second best catch rate averaging over 1.4 fish per hour. In 2 of the 6 census years, recreational lakes provided the best fishing success. The lowest angler success was recorded in municipal reservoirs and commercial pits. This is undoubtedly because such waters



Jim Sherman Photo.

Iowa's artificial lakes and city reservoirs produce high rates of angling success.

are used primarily for other activities and fishing is of secondary importance. In many instances fish management is curtailed because it interferes with the primary use of the lakes. These lakes averaged 1.2 fish per hour over the census.

There was very little difference in angler catch from year to year. Overall fishing success averaged 1.3 fish per hour. Success was lowest in 1964 when the catch rate was 1.1 fish per hour, and highest in 1964 when anglers caught 1.6 fish per hour.

Wherever one travels, he is bound to find another that will grumble about the fact that he cannot catch a fish. The facts are that the Iowa artificial lake and reservoir angler has some of the finest overall fishing in our country. Many fish experts consider a catch rate of 1 fish per hour satisfactory. In our man-made lakes the mean catch rate was always above this figure, and in only one instance dropped below this level in a particular ground of lakes. The average southern Iowa angler can expect to catch 2.1 fish after he fishes 1.6 hours. He also prefers bluegill and bullhead over all other species.

All these facts might be impressive to you, but you also might ask "Well where is the fishin' best?" Well, I can only tell you that Red Haw Lake near Chariton sustained a 2.2 fish per hour catch over the 6 year census. This was followed by Lake Wapello near Bloomfield with 1.8 fish per hour and Nine Eagles Lake near Davis City with 1.6 fish per hour. For short periods several other lakes produced better fishing, but for the past 6 years, these were the best. Good Luck!

SURVEYS = PROSPECTS—

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in general tend to vary up and down around an average level, with a built-in system of checks or controls that prevent them from exceeding certain limits or declining below a certain point. This is true of non-hunted species as well as game species.

The determination of just where and how hunting can be best fit into this "fluctuating balance picture" is an important task of the Conservation Commission. We do not want to fall off the end of the teeter-totter, but yet we want to get as much enjoyment out of the sport as can safely be allowed. Toward this end, a system has been set up by the Commission to obtain those facts on the year-round status of Iowa's ringneck population that will enable us to carry out the mandate of the biological balance law. The primary responsibility for collecting and analyzing these facts falls upon the Biology Section of the Commission, with considerable assistance—particularly in the collecting part—from the Conservation Officer and Game Sections of the Fish and Game Division.

No sooner does one hunting season end than the machinery swings into gear to begin laying the foundation for the next. From the day after the pheasant season ends to the middle of March, field personnel from the three sections keep a record of all pheasants they see on days when there is a reasonably good snow cover present. Since the most important figure to come from this survey is the ratio of hens to cock remaining in the population after hunting ends, it is important that counts be made only when it is as easy to see hens as roosters. If no snow is present, the gaudy cocks are easier to see than the drab-colored hens—hence the resistance to count only when there is snow on the ground.

In all the years this survey has been taken the situation has yet to be found where too many cocks have been removed from the populations. This has been true even in the most heavily hunted area of the state and in years with lower populations. Thus it can be truthfully stated, in terms of the biological balance law, the sex ratio of pheasants has never been reduced to the point of endangering the maintenance of an adequate supply of the species. In fact, the reverse has been true in that more cocks than necessary have been maintained in the population. Since this is, in effect, at variance with the balance concept, as set out by law, it has thus been possible for the Commission to extend the hunting season over a much longer period in recent years without harming the future pheasant population at all.

To maintain a still closer check on winter pheasant population trends, biologists conduct intensive on-the-spot counts each year of the actual number of birds living on two research areas of several sections each —the Winnebago Area in north central Iowa and the Union-Adair Area in the southwest part of the state—both being named after the county of location. These surveys are sometimes done more than once in a winter, particularly when a count is later followed by a severe blizzard, such as was the case after the St. Patrick's Day storm of 1965. Such information supplies facts which are better to rely on than estimates in judging the effects of such blizzards.

From mid-March to mid-April pheasants are on the move, the cocks picking out their crowing territories and harems, and the hens selecting their nesting sites. As soon as this phase becomes pretty well

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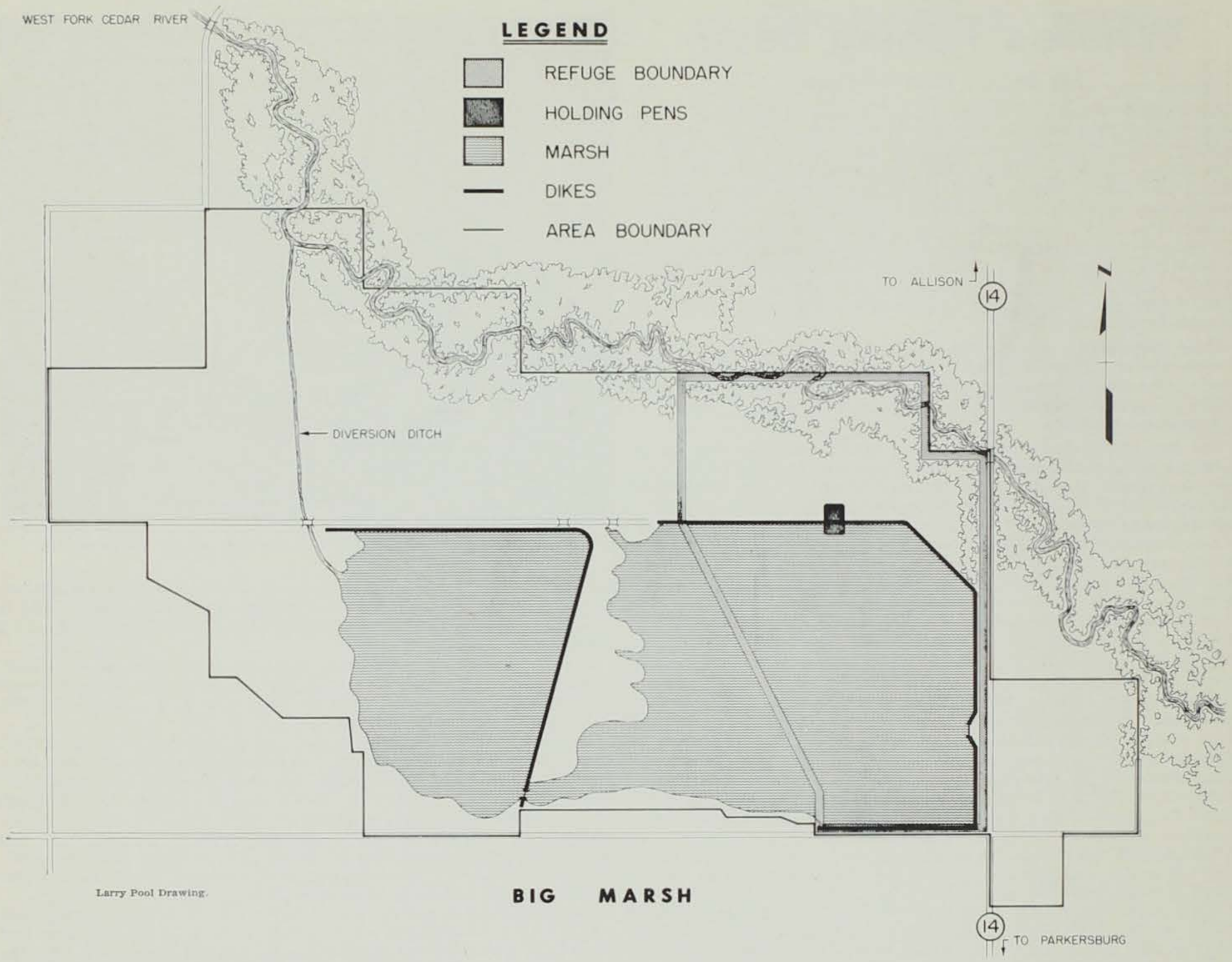

Larry Pool Drawing.

BIG MARSH

An Experiment at Big Marsh

CANADA GOOSE ENTICING

Bob Barratt, Superintendent of Game

Big Marsh is a State-owned area lying in the flood plain of the west fork of the Red Cedar River adjacent to Highway 14 between Allison and Parkersburg, Butler County. The area contains slightly over 2800 acres and was acquired for development as a waterfowl marsh. A series of dikes and control structures together with an inlet canal from the river makes it possible to flood the area annually during the fall months creating ideal waterfowl habitat. Lands not inundated by flooding provide excellent habitat for pheasants and other upland game species.

Since the area was relatively large, and it was apparently attractive to wild geese, management plans were designed to provide habitat attractive to these species. In 1956, approximately 200 Canada geese were brought into the area and penned here to provide a call or decoy flock. It was hoped that these wing-clipped birds would attract wild migrants during the fall months.

Since Federal regulations prohibit hunting live decoys, it was necessary to prohibit goose hunting on this area. It was believed however, that the concentration of geese would provide good hunting in surrounding lands. Portions of the area were open to upland hunting and to waterfowl hunting other than geese.

These early attempts to attract geese to the area with little or no success and in 1961 the management plans were revised in an attempt to improve goose management. A refuge segment was established including large acreages of open water and crop fields to provide food suitable for geese. The total refuge included more than one square mile of land and water. Fields of corn, soybeans, wheat, buckwheat, millet and other crops were planted to provide food within the security of the refuge boundary.

Close records have been kept since this time to obtain the actual numbers of geese present on the refuge during each day of the fall migration period. Crop plantings have been manipulated during recent years to provide a maximum of attractive habitat for the geese.

The first geese in 1961 arrived in mid-September but stayed for only a short period and no significant numbers of birds were observed until mid-October. Most of the geese had left the area by late November. Populations were small the first year, with a peak population of approximately 260 blue and snow geese, and only 6 Canada geese. Only 2 geese were known to have been killed in the adjacent fields during the year of the revised management program. Reception from local hunters was excellent.

In 1962 problems were encountered with the attempts to flood the area. Due to recurring floods during the summer, food was scarce and this factor probably also effected goose populations during the fall months. The first 1962 arrivals on September 19th included 34 Canada geese that stopped at the refuge for 4 days. A flock of 10 Canadas appeared on September 26th and stayed until October 1. The goose migrations of 1962 were somewhat later than normal with the bulk of the fall flight occurring from October 10 to October 13. Peak populations were reached in mid-October with 106 Canada geese, and in late October, when blue and snow arrived, populations reached 450. Fair numbers of geese were in the area until the end of November. The last birds left on December 11th.

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CANADA GOOSE ENTICING—

(Continued from page 76)

Jack Kerstein Photo.

The call flock in the holding pen at Big Marsh attracts geese to the refuge. Migrant geese move onto agricultural land in the area to feed, thereby providing goose hunting on a small scale.

During the winters of 1962, 1963 and 1964, much of the brush and small trees were cleared from the refuge segment. This type of vegetation is unattractive to geese and its removal apparently improved the attractiveness for these birds.

In 1963, food conditions, water conditions and other factors were considered to be much improved in the refuge segment. With a leisurely migration in 1963, populations attained the highest level that had been experienced since the area was first established. The first Canadas arrived on September 23rd, the first blue and snow geese arriving on October 2nd. Canada populations reached a maximum of 200 during the season while blue and snow populations climbed to a peak of 2200 birds present. A total goose population on the area during the season was many times that experienced in any of the previous years. Final blue and snow migration occurred about December 1 when most of the birds left the area. About 80 Canada geese stayed until December 6th. Habitat conditions including food were good throughout the season and only freezing weather caused the birds to continue their southward migration.

In 1964, late September floods on the river seriously hampered efforts to flood the waterfowl marsh. Crest elevations in the marsh were not reached until the middle of October. As in 1962, flooding during the summer months had seriously effected food production, and goose populations as a result were much lower than the previous year. Again, the first birds arrived in late September and peak populations of blues and snows were reached by mid October. The peak populations of these species was 350 birds. A steady increase in the population of Canada geese was observed until by about mid-November around 155 birds were using the area. Early freeze-ups caused blue and snow geese to leave by the 20th of November and the Canadas by the 25th. Although the population was far below 1963, it still exceeded any of the other previous years.

With continued improvement in the area by clearing and improving crop management plans, 1965 once more showed highly encouraging results. Both Canadas and the blue and snow geese moved into the area late in September with peak populations on blue and snows reached by the 7th of that month. Blue and snow populations gradually decreased after late October with the final birds departing on the 24th of November. Canada populations reached good numbers by October 1, and maintained relatively constant population until the end of November. Peak population for this species was 500 birds which was more than double of the population of Canadas in previous years.

Goose hunting success in the vicinity of Big Marsh has constantly improved since 1961. The best hunting occurs on surrounding farm lands early in the season and again late in the season when food supplies within the refuge have began to dwindle. It was estimated that more than 100 geese were killed in the vicinity of the marsh as a result of the refuge flock during the 1965 season.

Although goose hunting is still prohibited on the state-owned area, duck hunting outside the refuge segment has been excellent during the last several years. Hunting of upland species such as the ringneck pheasant has also been good.

If the goose populations using the refuge area continue to improve as has happened during the last five years, hunting on surrounding areas should improve accordingly. Game Managers realize that this area is small in comparison to many of the major goose refuges in the Flyway. However, they still believe they can improve the goose populations on the area and provide signficant recreation for the hunters in this part of the state.

Jack Kerstein Photo.

Discussing Iowa's Farmer-Sportsmen relations after brief ceremonies marking the signing of a proclamation on the subject are from left to right, Bill Russell, Executive Secretary, Iowa Izaak Walton League; Rev. Laurence Nelson, Chairman, Iowa Conservation Commission; Mike Zack, Vice-Chairman; Robert Beebe, Commissioner; Ben C. Buckingham, Farm Bureau; Dr. Keith McNurlen, Commissioner; and Governor Hughes.

PROCLAMATION

WHEREAS, thousands of Iowans and sportsmen friends from our sister states will soon be seeking the enjoyment and bounty annually offered to us by Nature; and

WHEREAS, the experience of the past has proved Iowa to have an outstanding and enviable record of good farmer-sportsmen relations in which the codes and ethics of gentlemen have prevailed; and

WHEREAS, such an enviable record substantially depends upon the continued good will which these practices have built between the farmer and the city hunter; and

WHEREAS, this good will is also based upon the respect the hunter has for private property rights; and

WHEREAS, these rights are protected through the simple act of hunters asking permission to hunt upon the farmers' land; and

WHEREAS, September 10 marks the opening of the hunting season in the State of Iowa;

NOW, THEREFORE, I, Harold E. Hughes, Governor of the State of Iowa, do hereby proclaim this season of harvest to be dedicated to the farmer and the hunter and a continuance of the aforesaid traditions of Farmer-Sportsmen Relations.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and caused the Great Seal of the State of Iowa to be affixed. Done at Des Moines this 7th day of September in the year of our Lord one thousand nine hundred sixty-six.

S/ HAROLD E. HUGHES, Governor.

Attest: S/ GARY L. CAMERON, Secretary of State.

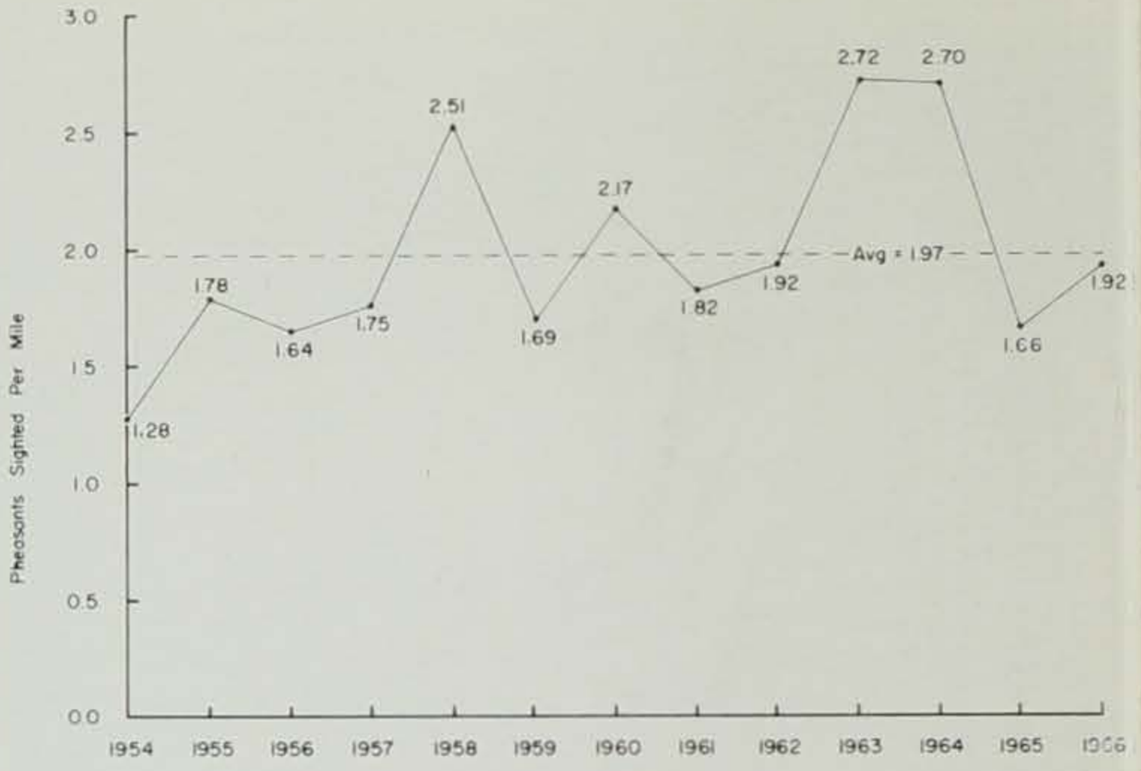
What are you—some kind of a nut?

SURVEYS = PROSPECTS—

(Continued from page 75)

Jim Sherman Photo.

Careful, systematic surveys are needed if Iowans are to continue to enjoy the rewards of the hunt.



Statewide Fall Pheasant Population Trends As Shown By The August Roadside Pheasant Survey In Iowa, 1954 Through 1966

stabilized, the next major survey in the systematic checking procedure gets underway. This is the spring crowing cock count and roadside count of both cocks and hens. The number of pheasant cock calls heard are counted for exactly two minutes at each of 10 stops spaced along a prescribed route. As soon as this is completed shortly after sunrise, the number of cocks and hens sighted while driving slowly along a 10-mile route are counted. The same spring routes are used each year, with two being assigned to most field personnel. Using the same routes helps make year-to-year comparisons more accurate. Routes are located in every county of the state.

These surveys give us a good idea of the spring pheasant brood stock situation each year. The average number of cock calls heard per stop is multiplied by the average number of hens observed per cock during the preceding winter surveys to give us an index to the spring hen population. This will tell us whether there are more, the same, or fewer hens available for nesting than in former years. The number of hens counted on the roadside survey serves as a cross-check on this index. The crowing count itself tells us trends in the pheasant rooster population, and the number sighted on the roadside count again serves as a cross-check. (It should perhaps be pointed out that it is not possible to get state-wide population trends from the winter observations—they depend entirely upon snow cover, and the number of birds counted is more a reflection of how much snow we had than how many pheasants.)

Spring crowing and roadside counts are also made on the two research areas previously mentioned. In fact, the routes on these areas are run several times each spring. This is done to more precisely measure any population changes that occur on these areas. This will then enable a better interpretation of the relationships of pheasant population changes with changes in weather, habitat, and other environmental factors.

These spring brood stock surveys are generally completed by the end of May. By this time nesting is well underway and a few early broods will already have been reported. In June there are no state-wide surveys scheduded. Pheasant biologists, however, keep tabs on the progress of this production period by recording the number of broods seen, how many chicks are in them, and their age. Weather patterns are watched closely, since by referring to past experience it is possible to make a general prediction of how good the hatch will be by applying our knowledge of spring brood stock levels and the weather that occurs in May and June. If these months are cold, and more so if also wet, we can be fairly safe in suspecting that we will not obtain a maximum return from the brood stock present. If the reverse is true, optimism is usually in order.

The first state-wide systematic checks on how successful the pheasants' reproductive efforts have been are made in July. This is made possible in that the state-wide quail whistling count survey is taken in early July and the state-wide rabbit roadside survey is run in mid-July. The former involves about 1000 miles on 100 routes of driving, while the latter totals close to 3000 miles on 100 routes—all in the very early morning when most wildlife is quite active and readily observed. Though the pheasant hatching season is not yet completely over, the number of broods sighted on these quail and rabbit surveys gives us our first preliminary state-wide indication of how things are progressing pheasant production-wise. They will in particular show us if there has been a lot of successful early pheasant nesting, which when it occurs, usually means a good year is in the offing.

The next step in this pheasant survey system takes place the last week in July. During this week some 600-700 rural mail carriers keep track of the number of pheasants they see on their regular mail routes. Since they run their routes later in the day when game is not as active as at sunrise, the 35,000 or so miles covered by them do not result in as many birds sighted per mile as the surveys run earlier in the day. Also, the actual number of birds counted must be interpreted with care since, as in the winter, such may be more of a reflection of the weather that week than of the number of birds present. Not as many will be seen in a hot dry week as compared to one with several mornings with heavy dews and haze hanging on well into the day. The key figure obtained from the rural mail carrier survey is the number of young per hen. When this figure is compared to those from previous years, it is possible to gain another good idea of how production has fared.

The most important survey from the standpoint of actually predicting fall pheasant populations, and thus hunting prospects as well, is made in August. Nearly 200 routes, each 30 miles in length, are driven at a slow pace beginning at sunrise on mornings with a heavy dew (research has shown that a more consistent number of birds will be seen on wet mornings—an important factor in making year to year comparisons). There is at least one route in every county of the state, just as in the spring survey. Detailed data on the number of cocks, hens, broods, brood size, and brood age are recorded. Since the production season is now past, except for perhaps a small number of very late broods, this survey comes the closest to a complete picture of the annual level of the fall pheasant population of any survey made.

The most significant figure obtained from this late summer roadside count, as far as the hunter is concerned, is the number of birds sighted per mile. The accompanying figure shows the state-wide results of this survey on a pheasants sighted per mile basis since 1954 (prior to 1954 they were run in September and October; hence not directly comparable). This shows that this year's survey indicates a population nearly 16 per cent greater than last years. It is the same as we had in 1962, though significantly lower than occurred in the peak years of 1958, 1963 and 1964. An overall look at this figure will give you a good example of the "fluctuating balance" idea mentioned at the beginning of the article. A dotted line showing the average for the period is included to give a better perspective. This also indicates we have about an average pheasant population this year on a state-wide basis.

It must be stressed that these are **state-wide** figures and that not every region of the state has followed the same trend over this period. For example, northwest Iowa in particular and north central as well have shown a noticeable decline, while west central and southwestern Iowa have experienced an offsetting increase. Thus we see a situation where there are just as many pheasants within the states' boundaries as in some previous year, only the best populations are in different parts of the state from before. If this continues, and there is every reason to suspect it will, it will require some changes in traditional hunting patterns of many sportsmen over the state. So long as farming becomes more intensive and winter and nesting cover for pheasants more and more scarce in northern Iowa, the chances of that region

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SURVEYS = PROSPECTS—

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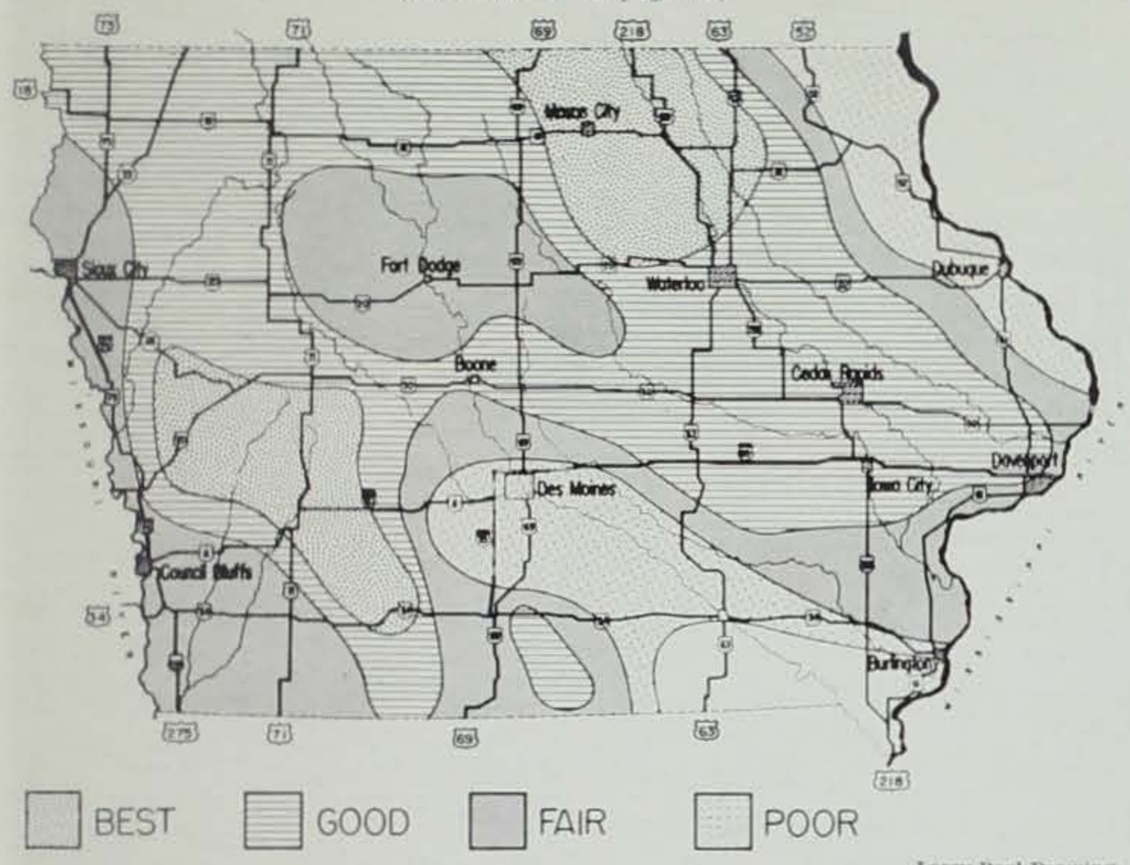


Larry Pool Drawing.

As the author states, pheasant populations within any area may vary. Generally, this graph gives a fairly accurate picture of distributions this year.

regaining its former high populations do not appear bright. Fortunately for Iowa hunters, pheasant populations seem to be gradually improving along the more southerly edges of what was formerly considered only fair range. Who knows—the day may come when much of southern Iowa will also be considered good pheasant hunting territory!

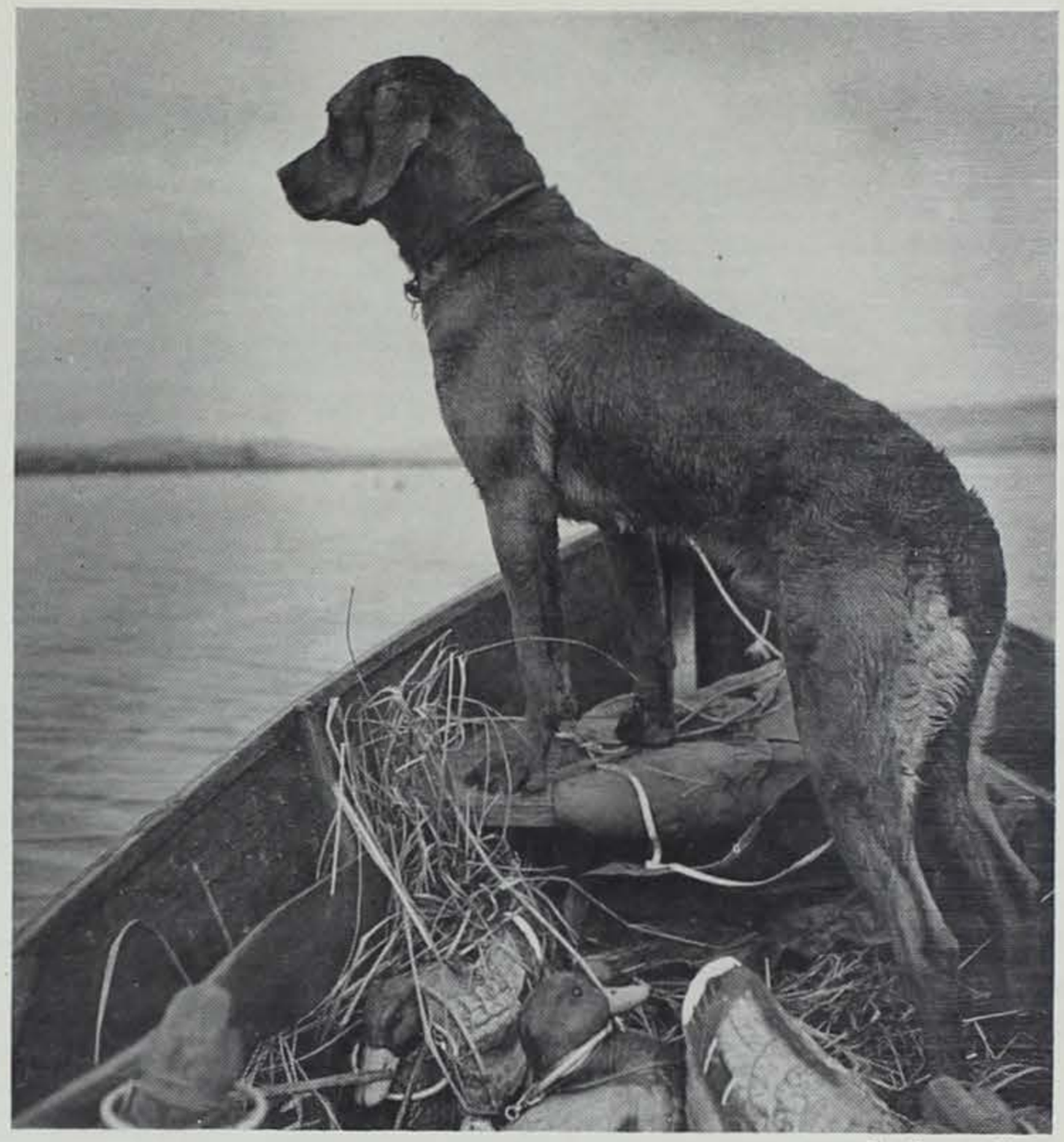
To get back to our account of "keeping tabs on the pheasants", the same type of late summer roadside counts are also made on the Winnebago and Union-Adair Research Areas. Again, the routes here are run several times during the month—sometimes even into September—in order to make more accurate measurements of the populations in these intensive study areas.

The Fish and Game Division staff then holds a meeting, usually in mid to late August, to study all of the facts gleaned from these various population surveys and all other aspects relating to the hunting season. They then make their recommendations to the Commission itself, and after due consideration of all issues involved, the season regulations are set.

When the season begins in early November, the systematic survey system swings into gear again. Conservation Officers contact many hunters during the season. In addition to the usual enforcement checks, the officer also records the results of the hunt—such things as how many hunters are in the party, how many hours they have hunted, what species they are after, and how many have been bagged. The compilation of all these officer contacts made during the season results in a relative measure of hunting success, the rate usually being expressed in terms of how many hours of hunting it has taken to bag one pheasant.

And the scheme does not end even here. At the close of the season a random sample of hunters is drawn from the Commission's license files and these individuals are sent a postcard questionnaire asking them the results of their past season. They are asked how many times they went pheasant hunting during the season, about how many total hours these hunts involved, the total number of pheasants they bagged during the entire season, and in which county they did most of their pheasant hunting. Special questions may also be asked, such as in which county did they hunt on opening weekend and how many were bagged then, or how many times did they hunt during the Christmas-New Year holiday season and how many were bagged during this period. It is important that we know the relative hunting success, hunting pressure, and other aspects of hunting activity in order to most efficiently regulate the season.

This then brings us around the full cycle and back to the post-hunting season winter sex ratio surveys. Though this account gives the basic picture of how the Conservation Commission keeps tabs on the ringneck pheasant, it by no means presents the entire picture of the Commission's pheasant program. This covers only one aspect, albeit the most important skeletal part. There are many other areas of research and management that are important to people interested in Iowa's pheasants, and any one of these can be a separate story in itself. The pheasant is No. 1 on the preference list of Iowa hunters, and sportsmen can rest assured that Mr. Ringneck will receive the emphasis and consideration from the Conservation Commission that he so justly deserves.



Jim Sherman Photo.

Knowing the different waterfowl and possessing a good retriever are specific aids to continued good duck hunting.

DUCK HUNTERS, IT'S YOUR RESPONSIBILITY

Richard Bishop
Game Biologist

The past several years Iowa hunters have experienced very restrictive waterfowl regulations. Reduction of breeding areas, drought and over-harvest of certain species have brought about these restrictions. Years ago duck numbers were almost unbelievable and bag limits were large. In past years duck numbers have dwindled, and in the spring of 1965 mallards and pintails in the Mississippi Flyway hit an all-time low. Regulations in 1965 had to be restrictive if these two important species were to make a comeback. A curtailed season in 1965, in addition to excellent water conditions in northern prairie areas, has brought the mallard back to levels occurring in 1961. An additional somewhat restrictive season in 1966 is hoped to bring the mallard back to the population it experienced in the mid-fifties. Since the mallard is the most important duck in the Mississippi Flyway, our management has been geared to this species. Other species such as gadwall, blue-winged teal, scaup and widgeon could stand a larger harvest, but more lenient seasons on these species are almost impossible unless duck hunters learn to better identify different species of ducks. Steps were taken in 1965 to allow an additional harvest of teal. An experimental teal season was set up to see if additional harvest would effect breeding populations and if the hunter could recognize the difference between teal and other ducks. This type of season is being repeated again in 1966.

The responsibility for identifying different species of ducks falls on the hunter. If he will learn the differences and can demonstrate this ability, a new door will open to the duck hunter through species management. Species management is not a new concept for we have had closed seasons on wood duck for many years; seasons have also been closed on redheads and canvasbacks. Wood ducks have been showing good increases under the protection given them in the past 20 years. Redheads have bounced back in the past few years to the extent that restrictions have been removed from this species.

Species management can also be accomplished by liberalizing regulations, such as the experimental teal season. Additional recreation opportunity may be provided if hunters will learn to shoot only those species for which bag limits are being liberalized. If they can not do so, hunting seasons will remain restrictive until populations of the endangered species have staged a comeback to levels permitting more lenient regulations.

Bird watchers and waterfowl technicians have learned to recognize

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DUCK HUNTERS—

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ducks in the air by their profile and behavior. This is not impossible for the hunter. If he values his recreation, he can surely spare a little time observing ducks other than over the gun barrel. Waterfowl hunting can be more enjoyable for the individual who knows what species he is shooting plus a few facts about the particular bird. During the teal season, a number of hunters mentioned their added satisfaction in being able to identify different species of ducks while hunting. One party, in fact, remained on the marsh for several hours after they had killed their limit of teal and used a bird book to tell the species of other flying ducks. These hunters are promoting self-satisfaction as well as good waterfowling in Iowa.

Only you, the duck hunter, will determine if we can practice sound waterfowl management by correct species identification.

BEGINNER'S BASIC

In the manufacture of sporting firearms, the highly polished metal parts are protected with a special process called bluing. Treating the metal in this manner also serves to enhance the product. The least desirable method of bluing is by "cold-treatment," which is a bottled liquid that one simply brushes on. (Often, sportsmen apply this liquid to touch-up sights and other scratched surfaces.) However, in quality manufacture, bluing is completed in a special heat process.

Bluing, or coloring the metal parts of firearms, was done as early as the 16th century. There have been several bluing procedures. Charcoal bluing was one of the original methods employed. An iron covered furnace was used to keep a large bank of pit charcoal at a high temperature. Polished metal parts were immersed into this charcoal mixture. Attached on rods, they were withdrawn at intervals and wiped with an oily waste (called sperm oil) until the desired color was attained—anywhere from blue to almost black.

Later, machine bluing was developed. Parts were arranged on slowly revolving cyclinders, which were heated to about 600 degrees F. The cylinders were packed with ground burned bone and an oil known as Carbonia. This process was used primarily for firearm receivers and other large parts. Niter-bluing, a cheaper method, was used on smaller parts, such as screw and pins. In this method, a niter solution was heated to about 700 degreees F. and the metal parts were brought up to a like temperature.

Browning is another, though more complicated, method in the evolution of the bluing process. It is a controlled chemical way of bluing that imparts a more brownish-black lustre. It is excellent for bluing components that are "soft-soldered." Today's best known bluing technique is a basic oxide black, which is a heated liquid preparation.—*The Winchester Proof.*

Ed's having a difficult time teaching him to point.

FIRST-AID NECESSITIES

In an emergency, the ability to act promptly—often within the first few minutes, certainly during the better part of the first hour—can spell the difference between life and death. Obviously, one can't be provided with a portable pharmacy. Nor can one bring along a pack mule, toting even the proverbial kitchen sink. However, along with iodine, peroxide, band-aids, compass, dry matches, and the usual paraphernalia, a first-aid pack should include same essentials that facilitate prevention of further injury in the face of a mishap. These can be stored in a base camp or in the car. Many sportsmen have personal preferences. Ours is offered for comparison. Perhaps it will stimulate additional ideas.

* A pocket knife, recently sharpened and lightly oiled.
* Safety flares, for road emergencies, boating distress signals, or lighting wet wood for survival fires.
* Two packages of extra-long leather shoelaces, for slings, splints and other emergencies.
* Two large bandana kerchiefs, handy for tourniquets and slings.
* A police whistle (carries farther than a shout).

—*Also*

* A package of paper tissues.
* Elastic bandages.
* Several white handkerchiefs protected in a plastic bag.
* Sterile gauze pads.
* Small bar of white soap.
* Half-dozen safety pins.

—*from THE WINCHESTER PROOF*

A split deer season for bow and arrow enthusiasts may produce challenging winter hunting conditions this year.

Split Bow and Arrow Season

Archers planning on bringing down a deer during the upcoming bow season in Iowa will be working a split season for the first time this year. Bow bending will begin in earnest on October 15 and continue unabated until a 12 day pause is called on November 13.

The break will allow time for the deer herd to settle down prior to the opening of the shotgun season on November 19. Another breather for the deer is scheduled between the closing of the gun season on November 22 and the reopening of the bow and arrow season on November 22. The final twang of bow strings will occur somewhere between sundown and the half hour of legal hunting that follows on December 16.

Last year, 4,300 Iowans participated in the bow and arrow season. This was a dramatic increase over the 1963 season when there were only 2,900 licensed archers in the state, and represents a gain of 600 over the 1965 season.

There is every reason to expect the popularity of archery deer hunting to continue to grow. This prediction is based upon the fact that once a hunter discovers the glamour of the sport and the magical way it brings him back to Nature, he becomes a preaching disciple.